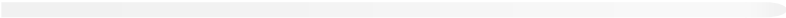


# Introduction to Recommender Systems

**Francesco Ricci**

eCommerce and Tourism Research Laboratory  
Automated Reasoning Systems Division  
ITC-irst  
Trento - Italy  
ricci@itc.it  
<http://ectrl.itc.it>



## Content

- The problems we are considering
- Information search and discovery
- Personalization: what is and the motivations
- Recommender systems
- Examples of recommender systems
- The tasks of a recommender system
- Prediction and selection
- Personalization is more general issue ...

## What movie should I see?



The Internet Movie Database (IMDb) provides information about actors, films, television shows, television stars, video games and production crew personnel.

Owned by Amazon.com since 1998, as of June 21, 2006 IMDb featured 796,328 titles and 2,127,371 people.

3

## What travel should I do ?



- I would like to escape from this ugly an tedious work life and relax for two weeks in a sunny place. I am fed up with these crowded and noisy places ... just the sand and the sea ... and some "adventure".



- I would like to bring my wife and my children on a holiday ... it should not be to expensive. I prefer mountainous places... not to far from home. Children parks, easy paths and good cuisine are a must.



- I want to experience the contact with a completely different culture. I would like to be fascinated by the people and learn to look at my life in a totally different way.

4

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AP - 1 hour, 40 minutes ago  
 DYERSBURG, Tenn. - Severe storms swept across the Midwest on Sunday, killing at least 14 people in Tennessee, Missouri and Illinois, officials said.  
Video: Tornado Hits Midwest, Damages Homes AP

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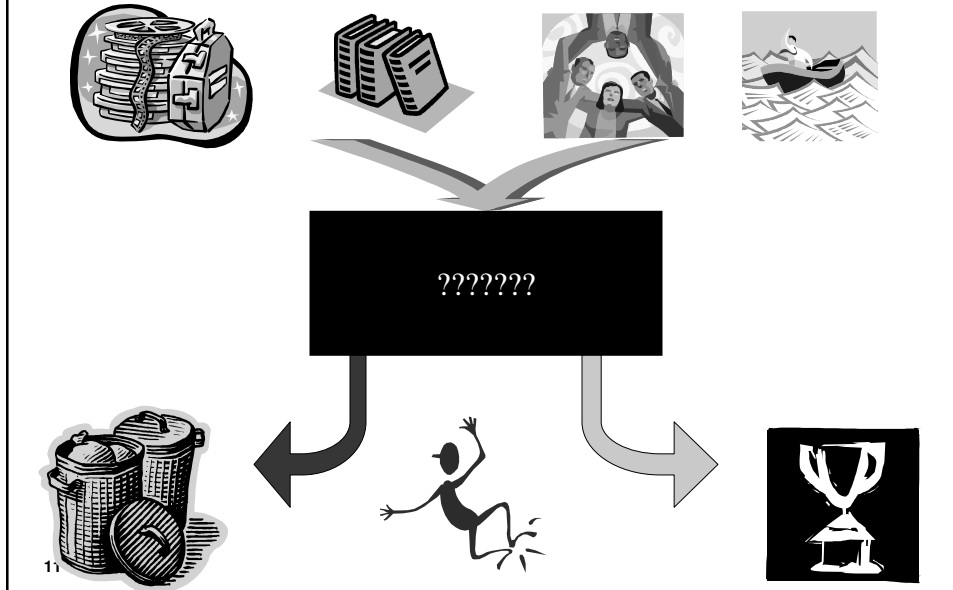
9

## The Problem



10

## A Solution



## Information Overload

- **Internet = information overload**, i.e., the state of having too much information to make a decision or remain informed about a topic
- Information retrieval technologies can assist a user to **locate** content if the user knows exactly what he is looking for (with some difficulties!)
  - The user must be able to say "yes this is what I need" when presented with the right result
- But in many information search task, e.g., product selection, the user is
  - not aware of the range of available options
  - may not know what to search
  - if presented with some results may not be able to choose.

12

## Decisions

- When there are 100.000.000 of options it is obvious we need tools for searching, filtering, ranking options
- *But even when there are a few dozen of options we need support*
- Examples
  - Where to go for dinner tonight?
  - What flight for going to Girona?
  - What Digital SLR (single lens reflex) camera should I buy?

13

## Information seeking vs. Information discovery

- Search means to locate a know object in a content repository
- Discovery means to explore some promising space for partially specified or unknown objects
- There are many "search" tools but few discovery environments
- Information seeking strategies: "there is no single best strategy (process) for finding information" - it depends on:
  - The nature of the information the user is seeking (flight, therapy guideline, ...)
  - The nature and the structure of the content repository (text, rdbms, ontology, ...)
  - The user familiarity with the information (cognitive capabilities)
  - the terminology used, and the available search tools.

14

## Non-personalized tools

- A printed catalogue of products, e.g., of books or clothes or travels
- A shop window
- A car exhibition in a cars shop
- A movie finder data base (search by title or actor)
- ...

15

## Personalized tools

- A printed catalogue of products, e.g., of books or clothes or travels:
  - THAT SHOWS ONLY THE PRODUCTS THAT YOU'LL LIKE TO HAVE
- A shop window:
  - THAT SHOWS IN THE BEST PLACES THE PRODUCTS YOU'RE SEARCHING
- A car exhibition in a cars shop:
  - THAT HAVE EXACTLY THE MODELS YOU THOUGH TO BUY
- A movie finder data base (search by title or actor):
  - THAT DOES NOT SHOW THE MOVIES YOU HATE
- ...

16



## Personalization

- “Personalization is the ability to provide content and services tailored to individuals based on knowledge about their preferences and behavior” [Paul Hagen, Forrester Research, 1999];
- “Personalization is the capability to customize customer communication based on knowledge preferences and behaviors at the time of interaction [with the customer]” [Jill Dyche, Baseline Consulting, 2002];
- “Personalization is about building customer loyalty by building a meaningful one-to-one relationship; by understanding the needs of each individual and helping satisfy a goal that efficiently and knowledgeably addresses each individual’s need in a given context” [Doug Riecken, IBM, 2000].

17

## Mass customization

- Mass customization refers to the physical modification of products and services to make them fit each consumer’s needs
- Recommender systems typically do not “adapt” the products – they adapt the presentation of the products
- Some recommender systems do adapt the product
  - Dynamic packaging of a travel
  - Building a personalized music compilation

18

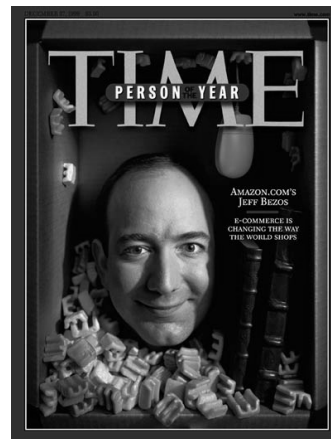
## Personalization vs Customization

- Store user information (name, browsing history, login, password) – using cookies or server side – avoid retyping
- Customization of the web site layout – such as My Yahoo
  - Static
  - Manual
- Unless the personalized page is really the main entry point on the web (user keep updated) it tends to be easily outdate and stop reflecting user preferences

19

## Jeff Bezos

- *"If I have 3 million customers on the Web, I should have 3 million stores on the Web"*
  - Jeff Bezos, CEO of Amazon.com
  - Degree in Computer Science
  - \$4.3 billion, ranked no. 147 in the Forbes list of the World's Wealthiest People



20

## WEB Site Personalization

- Tailoring a web site to individual users' characteristics or preferences – without requiring them to ask for it explicitly
- After a user has been “recognized”, the content and the presentation delivered after each user request **can** be adapted to the user preferences
- The user model is an internal representation of user's preferences, that the web site builds and manages either posing explicit requests to the user (forms) or tracking, under the scene, the user activity
- **Deliver a personal experience of the Web**

21

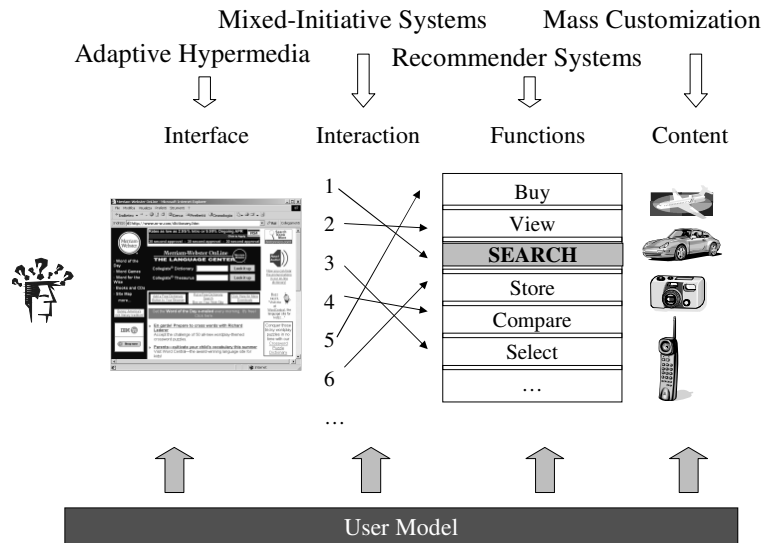
## Personalization Goals

- **Provide the users with what they want or need without requiring them to ask explicitly**
- Not a fully automated process
- Different approaches require different levels of user involvement and human computer interactivity
- Personalization techniques try to leverage all available information about users to deliver a personal experience

[Anand & Mobasher, 2005]

22

## Framework for Personalization



23

## Suppliers' Motivations

- **Making interactions faster and easier.** Personalization increases usability, i.e., how well a web site allows people to achieve their goals.
- **Increasing customer loyalty.** A user should be loyal to a web site which, when is visited, recognizes the old customer and treats him as a valuable visitor.
- **Increasing likelihood of repeated visits.** The longer the user interacts with the site, the more refined his user model maintained by the system becomes, and the more the web site can be effectively customized to match user preferences.
- **Maximize look-to-buy ratio.** It turns out to be look-to-book ratio in the travel and tourism industry, which is actually the essential indicator of personalization objectives in this domain.



24

## Original Definition of RS

- In everyday life we rely on recommendations from other people either by word of mouth, recommendation letters, movie and book reviews printed in newspapers ...
- In a typical recommender system people provide recommendations as inputs, which the system then aggregates and directs to appropriate recipients
  - Aggregation of recommendations
  - Match the recommendations with those searching for recommendations

[Resnick and Varian, 1997]

25

## Recommender Systems

- A **recommender system** helps to make choices without sufficient personal experience of the alternatives
  - To **suggest products** to their customers
  - To provide consumers with **information to help them decide** which products to purchase
- They are based on a number of **technologies**: information filtering, machine learning, adaptive and personalized system, user modeling, ...
- Not clear separation from Information Retrieval – [Burke, 2002] claims that is the “individualized” and “interesting and useful” features that make the difference.

26

## Examples

- Some examples found in the Web:
  1. **Amazon.com** – looks in the user past buying history, and recommends product bought by a user with similar buying behavior
  2. **Tripadvisor.com** - Quoting product reviews of a community of users
  3. **Activebuyersguide.com** – make questions about searched benefits to reduce the number of candidate products
  4. **Trip.com** – make questions and exploits to constraint the search (exploit standardized profiles)
  5. **Smarter Kids** – self selection of a user profile – classification of products in user profiles

27

## User Tasks

- **Annotation in Context:** GroupLens – suggest what news are worth reading [Resnick et al. 1994]
- **Find Good Items:** suggest some items as a ranked list [Shardanand and Maes, 1995]
- **Find all Good Items:** all items satisfying some user needs and wants [Ricci et al, 2002]
- **Recommend Sequence:** recommending a sequence that is pleasing as a whole [Hayes and Cunningham, 2001] [Aguzzoli et al., 2002]
- **Recommend a Bundle:** suggest a group of products that fits well together [Ricci et al, 2002]
- **Just Browsing:** user find pleasant to browse products' recommendations
- **Find Credible Recommender:** users try to change the input (e.g. user profile) to find bias in the recommender algorithms
- **Improve Profile:** add rates or other user info to "improve" their profile
- **Express Self:** feel good to contribute to the system performance by adding their comments or ratings
- **Help Others or Influence Others.**

Extended from [Herlocker et al. 2004]

28

## Prediction and Selection

- **Prediction task:** a model must be built to predict ratings for items not currently rated by the user
  - Numeric ratings: regression
  - Discrete ratings: classification
- **Selection task:** a model must be built that selects the N most relevant items the user has not already rated
- Selection can be thought to be a post-process of prediction – but different evaluation strategies are applied

29

## A Simplified Model of Recommendation

1. Two types of entities: Users and Items
2. A background knowledge:
  - A set of ratings: a map  $R: \text{Users} \times \text{Items} \rightarrow [0,1] \cup \{?\}$
  - A set of "features" of the Users and/or Items
3. A **method** for eliminating all or part of the '?' values for some (user, item) pairs – substituting '?' with the true values
4. A method for selecting the items to recommend
  - Recommend to u the item  $i^*$  such that:
    - $i^* = \arg \max_{i \in \text{Items}} \{R(u,i)\}$

[Adomavicius et al., 2005]

30

## Other Examples: Personalizing emails

- Travelocity launched its new Bon Voyage e-mail service, which offers recipients information about events, activities and other details about destinations to which they have booked travel (tailored to the date of travel).
- In collaboration with Viator, a global provider of destination product - specialized in bringing into the travel booking loop products that typically have not been available for booking in an automated manner— theatre tickets, pork air balloon rides, etc.

31

## Personalization

### User

Knowledge, experience, budget, travel party, cognitive capabilities, motivations (security, variety, fun, etc.), age, language, disabilities

### Need

- Buy a complete travel package,
- choose a restaurant,
- collect information on a location,
- find the route,
- find the transportation mean
- communicate with other travelers

### Context

- pre-travel vs. during travel
- on-the-net, on-the-move, on-the-tour
- traveling, wandering and visiting
- environment: in the hotel, train, car, airplane, at the conference
- Time/Space coordinates
- Business vs Fun

### Device/Capabilities

Personal computer, PDA, smart phone, phone - payment, movies, broadcast, instant messaging, email, position, ecc.

Economic and Social

System behavior and content adaptation

32



## Conclusions

- A recommender system main task is to choose products that are potentially more interesting to the user from a large set of options
- Recommender systems support many different tasks
- Recommender systems “personalize” the human-computer interaction – make the interaction adapted to the specific needs and characteristics of the user
- Personalization is a complex topic: many factors and there is no theory.

33

## What Next?

- Lesson 2 - Collaborative-Based Filtering and Evaluation of Recommender Systems
- Lesson 3 - Content-Based and Hybrid Methods
- Lesson 4 - Knowledge based recommenders
- Lesson 5 - Conversational Recommender Systems
- Lesson 6 - HCI and recommender Systems
- Lesson 7 - Challenges and Summary

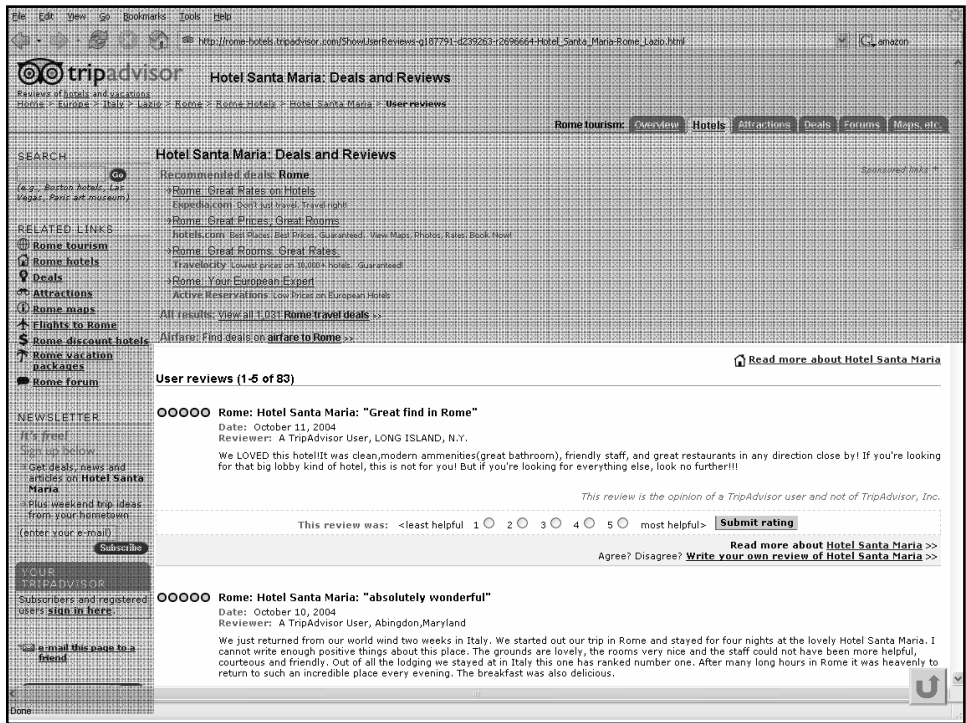
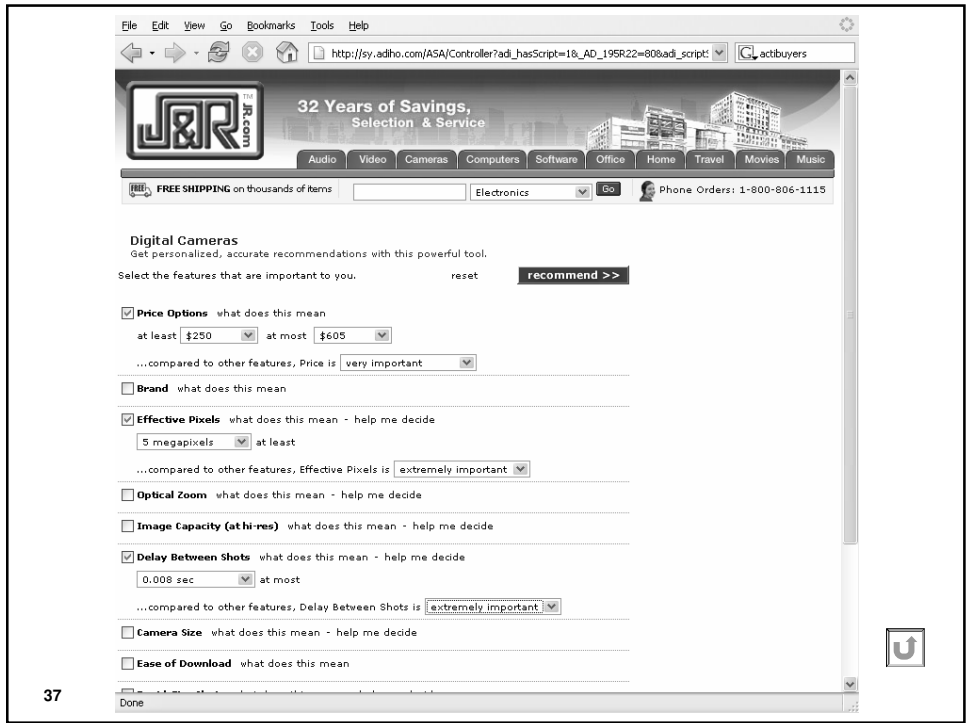
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## Questions

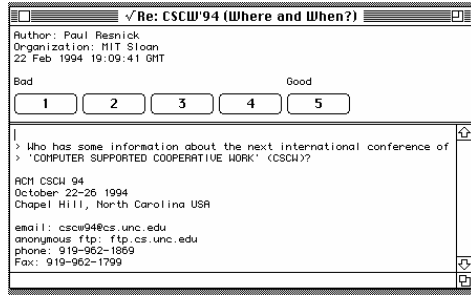
- What is exactly a recommender system?
- What are the basic functionality of a recommender system?
- What means to make a recommendation?
- What is the difference between a recommender system and an information retrieval system?
- In which sense a recommender system offer a personalized service?
- Are recommender systems more focused on information seeking or information discovery?

35

The screenshot shows the Amazon.com website interface. At the top, there is a navigation bar with the Amazon logo, a search bar, and links for 'VIEW CART', 'WISH LIST', 'YOUR ACCOUNT', and 'HELP'. Below this is a secondary navigation bar with categories like 'WELCOME', 'RECOMMENDATIONS WIZARD', 'IMPROVE YOUR RECOMMENDATIONS', 'BOOKS', 'APPAREL & ACCESSORIES', 'ELECTRONICS', 'TOYS & GAMES', 'MUSIC', 'CELL PHONES & SERVICE', and 'SEE MORE STORES'. The main content area is titled 'Recommended for Ricci Francesco (If you're not Ricci Francesco, click here.)'. It features a sidebar on the left with 'BROWSE RECOMMENDED' and 'Recommendations' sections, listing various product categories. The main content area displays three recommended items, each with a 'LOOK INSIDE!' button, a book cover, the title, author, average customer review (represented by stars), publication date, and price. Each item also has 'Add to cart' and 'Add to Wish List' buttons, and a 'Rate this item' section with a star rating and a 'Not interested' checkbox. The first item is 'Object-Oriented Common LISP [FACSIMILE]' by Stephen Slade, with a price of \$46.35. The second is 'How Would You Move Mount Fuji? Microsoft's Cult of the Puzzle - How the World's Smartest Company Selects the Most Creative Thinkers' by William Poundstone, with a price of \$16.07. The third is 'Introduction to Artificial Intelligence' by Philip C. Jackson, with a price of \$11.07. At the bottom of the page, there is a footer with the text 'Transferring data from images-na.s3-images-amazon.com...' and the Amazon logo.



# GroupLens



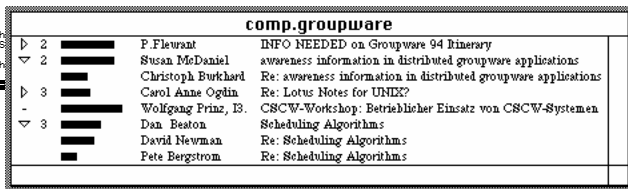
Entering rates

NewsGroup: comp.multimedia Articles: 266 of 7228/160 READ MSG/UPDATE

```

a,Alois Bock 11 >xxx 7 RASH STATEMENTS xxx
b,Bernhard Schwall 9 Driver for ATI Graphics Ultra Pro/Plus
c,Kung Tany 20 Question: Video Input Boards
d,Francois Zarnoca 8 C SB16 mod-editor ???
e,Patrick Corbett 9 B REALLY good encyclopedia on CD_ROM?
f,Leslie Davidow 26 A >
g,Isa Helderman 9 A >>
h,Dave Skowanzek 32 Cyberfest.894
i,hkaplanwoods 9 Hypercard????
j,eruffing@borvni 5 B FTP Sites for
k,wants ing, R.H. 22 B Hit-standard wh
l,kees de Groot 31 B Manipulating S
m,Steven Koster 24 H Line Radio in
n,Isa Helderman 19 Need help with
  
```

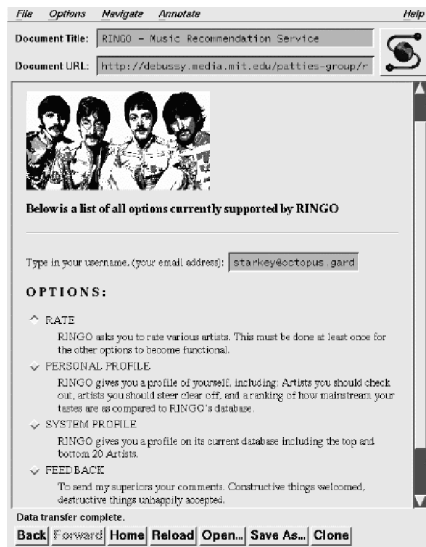
Providing Recommendations



39



# Ringo



Artist	Rating	Confidence
"Orb, The"	6.9	fair
"Negativland"	6.5	high
Reviews for "Negativland"		
They make you laugh at the fact that nothing is funny any more -- user@place.edu		
"New Order"	6.5	fair
Reviews for "New Order"		
Their albums until 'Brotherhood' were excellent. Since then, they have become a tad too tame and predictable. And sadly, they have been overplayed. — last@eewhere.com		
"Sonic Youth"	6.5	fair
Reviews for "Sonic Youth"		
Confusion is Sex: come closer and I'll tell you.		
"Grifters"	6.4	fair
"Dinosaur Jr."	6.4	fair
"Velvet Underground, The"	6.3	low
Reviews for "Velvet Underground, The"		
The most amazing band ever.		
"Mudhoney"	6.3	fair

40

[Shardanand and Maes, 1995]



The screenshot shows the NutKina website interface. At the top, there is a navigation menu with 'Home', 'Travel Plan', and 'My Travels'. Below this, there are sections for 'Locations', 'Accommodation', and 'Sporting activities'. The main content area displays '3 Locations found' with a search filter for 'Alto Garda, Valle di Ledro'. A table titled 'Travel preferences' compares 'testU42's travel preferences' with 'Your preferences'.

Travel preferences	testU42's travel preferences:	Your preferences:
<b>Travel companions</b>	travel with friends	travel with family
<b>Accommodation</b>	stay in hotel	stay in hotel
<b>Budget</b>	budget between 20 and 40 €	budget between 20 and 40 €
<b>Transport</b>	car	car
<b>Interests:</b>		
<b>Sports</b>		
<b>Adventure</b>	✓	
<b>Relaxing</b>	✓	
<b>Art and Culture</b>		✓
<b>Whine and Food</b>		✓
<b>Environment and Landscape</b>		✓
<b>Fitness and Wellness</b>		

Below the table, there are sections for 'TRENTO' and 'Valle dell'Adige, Trento e Monte Bondone' with a brief description of the area. The page number '41' is visible in the bottom left corner.

[Ricci et al., 2002]

## SmartRadio

The screenshot shows the SmartRadio web application interface. It features a sidebar with navigation buttons like 'Create a New One!', 'Search Playlists', 'Your Playlists', 'Top 10', 'Neighbours', 'New Playlists', 'Preferences', and 'Contact Us'. The main content area is divided into two sections: 'Conchuir's Recommended PlayLists' and a track rating section.


Playlist	Creator
1. DJ Dirtbag and his Xtrem...	oconnonp
2. what was i thinking?	coylel
3. coylel 03 July 2001 12:08	coylel
4. ginger's list 30-May-03 ..	ginger
5. hmmm.... interesting	oconnonp
6. Radio Head?	coylel
7. rockn	coylel
8. Røyksopp - Melody A.M.	coylel
9. ribsmae's list 20-Nov-02..	ribsmac
10. Frames	ribsmac

Below the playlist, there is a 'next 10' link. To the right, the 'Track' section displays a list of songs with their artists and a 'Rate these!' column with smiley face icons for user ratings.

Track	Artist	Rate these!
Black Eyed Boy	Texas	☹️ 😐 😊 😄 😁
Summer Son	Texas	☹️ 😐 😊 😄 😁
I Still Haven't Found What..U2	U2	☹️ 😐 😊 😄 😁
With Or Without You	U2	☹️ 😐 😊 😄 😁
Black Star	Radiohead	☹️ 😐 😊 😄 😁
The National Anthem	Radiohead	☹️ 😐 😊 😄 😁
Optimistic	Radiohead	☹️ 😐 😊 😄 😁
The Tourist	Radiohead	☹️ 😐 😊 😄 😁
The Bends	Radiohead	☹️ 😐 😊 😄 😁
Professional Widow	Tori Amos	☹️ 😐 😊 😄 😁

The page number '42' is visible in the bottom left corner.

[Hayes and Cunningham, 2004]



Home | **Travel Plan** | My Travels | My profile

Locations | Accommodation | Sporting activities | Events

Travel Plan > Suggested Travels

**New Travel Plan**

**We recommend**

These are the travel plans we recommend. We have examined travel plans in detail. Click on the name for details.

**Garda Lake in July**

**Description:** From 2002-07-01 To 2002-07-13  
**Locations:** RIVA DEL GARDA  
**Accommodation:** RESIDENCE SPIAGGIA  
**Sporting activities:** Malga Grassi; Fraglia

**Vacanza in montagna 2002**

**Description:** Con la famiglia nel Primiero  
**From:** 2002-09-06 **To:** 2002-09-15  
**Locations:** IMER  
**Accommodation:** AL BIVIO  
**Sporting activities:** Passeggiata Passo Roccaforte  
**Culture:** Palazzo del Dazio o delle Miniere; Castel Pietra; Museo della Grande Guerra

**TRAVEL 09-12-2002**

**Description:** val di fassa  
**From:** 2002-07-01 **To:** 2002-07-01  
**Accommodation:** RESIDENCE DOLOMA  
**Sporting activities:** Pozza-Buttaure-Sella  
**Culture:** Torre di Pozza; Molin de Pezol - m

**Suggested Travel Plan**

Here's a trip we recommend. If you like you can [save this as your trip](#).

**Garda Lake in July**

**General information**

**Name:** Garda Lake in July  
**Description:**  
**Start date:** 2002-07-01  
**End date:** 2002-07-13


**Travel plan preferences**

<b>Travel companions:</b> with family	<b>Activities:</b> Sports
<b>Accommodation:</b> apartment / between 20 and 40 €	Relaxing
<b>Transport:</b> car	White and Food
<b>Period:</b> July	Environment and Landscape
<b>Length of stay:</b> two weeks	

**The travel plan includes:**

**Locations:** RIVA DEL GARDA

**Description**



In Riva, Lake Garda is particularly charming. The colour blue of the water is more intense, the sunlight more vivid and the air is oxygenated by the mountains and purified by the Lake Garda breeze which blows and fills the coloured sails of the windsurfs. The beaches, surrounded by vegetation or ... [more](#)


**Services**

<input type="checkbox"/> Museums	<input type="checkbox"/> Mountain bike	<input type="checkbox"/> Mountaineering
<input type="checkbox"/> Hiking	<input type="checkbox"/> Places of historic interest	<input type="checkbox"/> Swimming
<input type="checkbox"/> Windsurfing	<input type="checkbox"/> Eno-gastronomic events	<input type="checkbox"/> Canoeing
<input type="checkbox"/> Classical music	<input type="checkbox"/> Sailing	
<input type="checkbox"/> Pop music	<input type="checkbox"/> Jazz	

[Give us your feedback](#)


**Accommodation:** RESIDENCE SPIAGGIA

**Details**




**Address:**  
**Telephone:**  
**Fax:**  
**Web:** [www.rivadelgarda.com/spiaggia](http://www.rivadelgarda.com/spiaggia)  
**E-mail:**  
**Max Cost:** 25 €

[Ricci et al., 2002]

43 

Trip.com

Trip.com - Vacation and Travel Destinations - Microsoft Internet Explorer



Hurry, the London for FREE sale ends January 16th!

BRITISH AIRWAYS

Home | Flights | Lodging | Car Rentals | Cars | Vacation Packages | Cruises | Last Minute Trips | Travel Resources | My Profile | My Trips

Welcome! Tell us what you think about our new site. [Register/Log In](#) | [Help](#) | 1.800.TRIP.COM




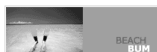
**Travel Resources**

- > Trip Coach
- > Flight Tracker
- > Driving Directions
- > Street Maps
- > Destination Guides
- > Airport Maps
- > Airport Delays
- > Weather
- > Travel Tips
- > Int'l Calling Codes
- > Wireless

**Trip Coach**

People are as different as the trips they take. That's why Trip Coach finds destinations for you based on your travel interests. Select a personality or create your own, and we'll find destinations that are great for you.

Select the personality below that best describes you.

<p><input type="radio"/> <b>WINTER WARRIOR</b></p>  <p>All you need on your trip is snow. Skiing, snow boarding, and hanging out at the lodge mark your final destination.</p>	<p><input type="radio"/> <b>SPORTS ENTHUSIAST</b></p>  <p>Whether spectator or participant, your ideal trip involves anything sports-related: golf, tennis, baseball, football, and everything in between.</p>
<p><input type="radio"/> <b>SIGHT SEEKER</b></p>  <p>You revel in trips that keep you busy searching for the next tour, attraction, or landmark.</p>	<p><input type="radio"/> <b>SEASONED SHOPPER</b></p>  <p>Your motto is "shop 'til you drop." For you, traveling is all about finding the best shops and bargains in town.</p>
<p><input type="radio"/> <b>OUTDOOR ADVENTURER</b></p>  <p>The great outdoors and all that goes with it - hiking, biking, kayaking, canoeing, skiing, exploring - is your idea of a perfect getaway.</p>	<p><input type="radio"/> <b>FAMILY TRAVELER</b></p>  <p>From amusement parks to festivals to outdoor fun, you love to travel with your children, or you're just a kid at heart. Either way, your trip is usually playful and carefree.</p>
<p><input type="radio"/> <b>CULTURE CONNOISSEUR</b></p>  <p>Your perfect destination offers an abundance of art, architecture, galleries, and theaters.</p>	<p><input type="radio"/> <b>BEACH BUM</b></p>  <p>Your ideal trip revolves around enjoying the latest water sports, sipping tropical drinks, and working on your tan.</p>

If you did not find a personality that fits you,  
 Build your own travel personality.

[CONTINUE](#)

Book a car now and save more money!



44

# Trip.com

**Trip.com Travel - Destination Search - Microsoft Internet Explorer**

**trip.com** Hurry, the London for FREE sale ends January 16th! [book now!](#) **BRITISH AIRWAYS**

Home Flights Lodging Condo Rentals Cars Vacation Packages Cruises Last Minute Trips Travel Resources My Profile My Trips

Welcome! Tell us what you think about our new site. [Register/Log In](#) | [Help](#) | 1.800.TRIP.COM

**Travel Resources**

- > Trip Coach
- > FlightTracker
- > Driving Directions
- > Street Maps
- > Destination Guides
- > Airport Maps
- > Airport Delays
- > Weather
- > Travel Tips
- > Int'l Calling Codes
- > Wireless

**Trip Coach**

**Trip Information**  
\*Required info.

\*Departing From  
City:  State:

\*Departure Month and Year:

\*Length of Trip:  Days

\*Number of Travelers  
Adults:  Children:  [Traveling with a group?](#)

Means of Travel:  Travel Time (one-way):  Hours

Region to Visit:

Budget:  (meals & lodging, per person/per day)

45

# Trip.com

**Trip.com Travel - Destination Search - Microsoft Internet Explorer**

**trip.com** Hurry, the London for FREE sale ends January 16th! [book now!](#) **BRITISH AIRWAYS**

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**Trip Coach**

**Trip Information**  
\*Required info.

\*Departing From  
City:  State:

\*Departure Month and Year:

\*Length of Trip:  Days

\*Number of Travelers  
Adults:  Children:  [Traveling with a group?](#)

Means of Travel:  Travel Time (one-way):  Hours

Region to Visit:

Budget:  (meals & lodging, per person/per day)

**Why This Destination is Good For You - Mi...**

**Why This Destination is Good For You**

Here are the reasons this destination was recommended for you:

**Overall Score:** 79%

**Destination:** Central West, FL

**Cities in this region:** Clearwater, Sarasota, St. Petersburg, Tampa

**Departing From:** washington, DC

**Departure Month:** April 2003

**Travel Time:** Reasonable for 7 day trip by car

**Number of Travelers:** 2 Adults, 2 Children

**Region to Visit:** Any

**Budget:** \$102 - \$219 (meals & lodging, per person/per day)

**Destination Highlights**

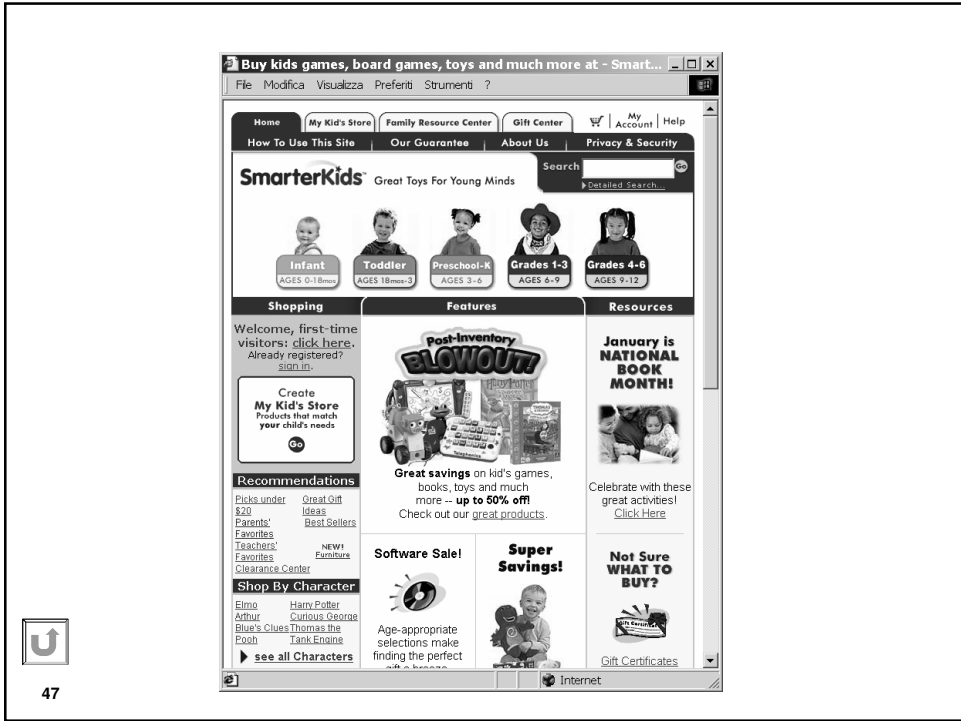
**Based on your interests, this destination is GREAT for:**

- Wildlife and Zoos
- Soccer
- Hockey
- Baseball
- Mountain Biking
- Cycling
- Swimming
- Beaches
- Amusement Parks
- Camping

**Cities in this region:**

- Clearwater
- Sarasota
- St. Petersburg
- Tampa

46



47